Modern Monetary Theory - Week 2

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Press N for the next page, B for back.

Last Time, You'll Remember ...

- We provided definitions of basic terms, like
  - "political economy"
  - "macroeconomics"
  - "monetary sovereignty"

continued...

Last Time, You’ll Remember ...

- We provided definitions of basic terms, like
  - "political economy"
  - "macroeconomics"
  - "monetary sovereignty"
- Told a charming story about Warren Mosler, his children and his business cards

You’ll Also Remember ...

- We followed Robert Hockett and Aaron James in defining "basic money"
  - Relationships of mutual obligation (debts) are fundamental to human society.
  - Money is a social relationship -- a way of keeping track of obligations
  - Money is represented in different forms in different eras

continued...

You’ll Also Remember ...

- We followed Robert Hockett and Aaron James in defining "basic money"
  - Relationships of mutual obligation (debts) are fundamental to human society.
  - Money is a social relationship -- a way of keeping track of obligations
  - Money is represented in different forms in different eras
- Saw that "modern money" has these additional characteristics:
  - It is issued by the state to provision itself with resources to carry out the public purpose
  - The state taxes back a portion of the currency it issues
  - Hence, modern money is that which the state accepts in payment for taxes.

You’ll Further Remember ...

- We then told some more charming stories situated in the land of Monty Python and the Holy Grail
  - Disputed the notion that money "arose out of barter" as solution to problem of double coincidence of wants

Pause for Questions

In Today's Session ...

- We'll mainly be discussing "monetary sovereignty"
- But first, some discussion of MMT's three-stage methodology
  - `Description`
  - `Inference`
  - `Prescription`

Stage 1: Description

- MMT is a description of the way contemporary capitalist economies work
  - In this stage, we try not to impose our value judgments
  - ... but we dispute the way orthodox economics describes those economies

Stage 2: Inference

- We then draw inferences about things that are possible within such economies
  - Example: the possibility of a Job Guarantee

Stage 3: Prescription

- We bring our own values forward
- We make policy recommendations based on MMT insights to improve social welfare

Sequence of Three Questions

- How does the economy work (according to MMT)?
    - Weeks 1, 2 and 3
- How could the economy work?
    - Week 4
- How should the economy work?
    - Week 5

Description and Prescription in the Next Year

- Assume Biden in White House, Democrats control House, Senate closely divided

continued...

Description and Prescription in the Next Year

- Assume Biden in White House, Democrats control House, Senate closely divided
- Calls to "rein in" spending
    - Balance the budget
    - Sound finance

continued...

Description and Prescription in the Next Year

- Assume Biden in White House, Democrats control House, Senate closely divided
- Calls to "rein in" spending
  - Balance the budget
  - Sound finance
- "We just don’t have the money"

Household Budget Analogy

- `Prescription:` Federal government budget ought to be balanced just like a household budget
- `Values` held by citizenry
- `Description:` Federal government budget works same as household budget

continued...

Household Budget Analogy

- `Prescription:` Federal government budget ought to be balanced just like a household budget
- `Values` held by citizenry
- `Description:` Federal government budget works same as household budget
- But what if the description is wrong?

Pause for Questions

- Questions about methodological trichotomy now
- Defer questions about examples till later

Monetary Sovereignty

- From the course synopsis

```
"A monetarily sovereign nation is one which issues its own currency,
does not peg the value of that currency to any precious metal or to
any other currency, and whose government does not take on debt in any
currency other than its own."
```


Monetary Sovereignty: First 3 Conditions

- The nation must issue its own currency, in its chosen unit of account

continued...

Monetary Sovereignty: First 3 Conditions

- The nation must issue its own currency, in its chosen unit of account
- The nation must not tie the value of its currency to precious metal or any other currency
    - A fiat currency

continued...

Monetary Sovereignty: First 3 Conditions

- The nation must issue its own currency, in its chosen unit of account
- The nation must not tie the value of its currency to precious metal or any other currency
  - A fiat currency
- The nation's government must not take on debt in any other currency

Monetary Sovereignty: 3 More Conditions

- Hockett and James say more is needed for effective monetary sovereignty

continued...

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- Nation must impose a tax liability in the unit of account
  - .. thus ensuring demand for that unit of account

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- Nation must have limited trade dependence in essential goods
  - Goods like food and energy sources
  - To mitigate foreign exchange and inflation risk

continued...

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  - Goods like food and energy sources
  - To mitigate foreign exchange and inflation risk
- Nation must have effective, noncorrupt institutions for inflation management

A Spectrum of Monetary Sovereignty

- Six conditions suggest countries fall in different places on a `spectrum` of monetary sovereignty

Monetarily Sovereign Countries

- Examples: United States, Canada, Australia, the United Kingdom and Japan
- Each has its own currency
- None offer to buy gold at a fixed price with their currency
- None pegs the value of their currency to any other currency
- Exchange rates with other currencies vary from minute to minute
  - Floating exchange rates

"Dirty" Floats and "Clean" Floats

- All countries practice a certain amount of exchange rate management
  - "Dirty float" versus "clean float"
  - Example: People's Republic of China, per Wikipedia, practices:

```
"managed floating exchange rate [model] based on market supply
and demand with reference to a basket of foreign currencies."
```

Wikipedia: Renminbi

No Foreign Denominated Debt

- Governments of these countries do not take on debt denominated in foreign currencies
- So they're never in a position where they must take steps to acquire foreign currency ...
    - ... in order to pay off debts denominated in foreign currency as they come due

Four Ways Countries Can Lack Monetary Sovereignty

- A country can peg value of its currency to a different currency
    - 65 countries issue their own currency but try to peg that currency to U.S. dollar
        - Fixed exchange rate
        - To maintain peg, must accumulate U.S. dollar reserves

Investopedia on Countries Pegging to #Dollar

- Argentina, 1992 - 2001: "peso convertible": 1-to-1 peg to dollar

Argentina 1992-2001

Borrowing in Foreign Currency Limits Monetary Sovereignty

- Borrowing in foreign currency means you have to acquire that currency to make payments
- Usually, borrowing in currency of more powerful country

continued...

Borrowing in Foreign Currency Limits Monetary Sovereignty

- Borrowing in foreign currency means you have to acquire that currency to make payments
- Usually, borrowing in currency of more powerful country
- Argentina, during peso convertible period:
  - Money supply needed to grow along with the economy
  - But supply of pesos was tied to supply of U.S. dollars
  - Not enough dollars earned through export sales
  - Had to borrow U.S. dollars to maintain the peg

Currency Union Membership Precludes Monetary Sovereignty

- A country can give up its currency and participate in a currency union
- Eurozone: 19-member currency union
    - French franc, German deutschemark, Italian lira -- all gone

The CFA - a Post-Colonial Currency Union

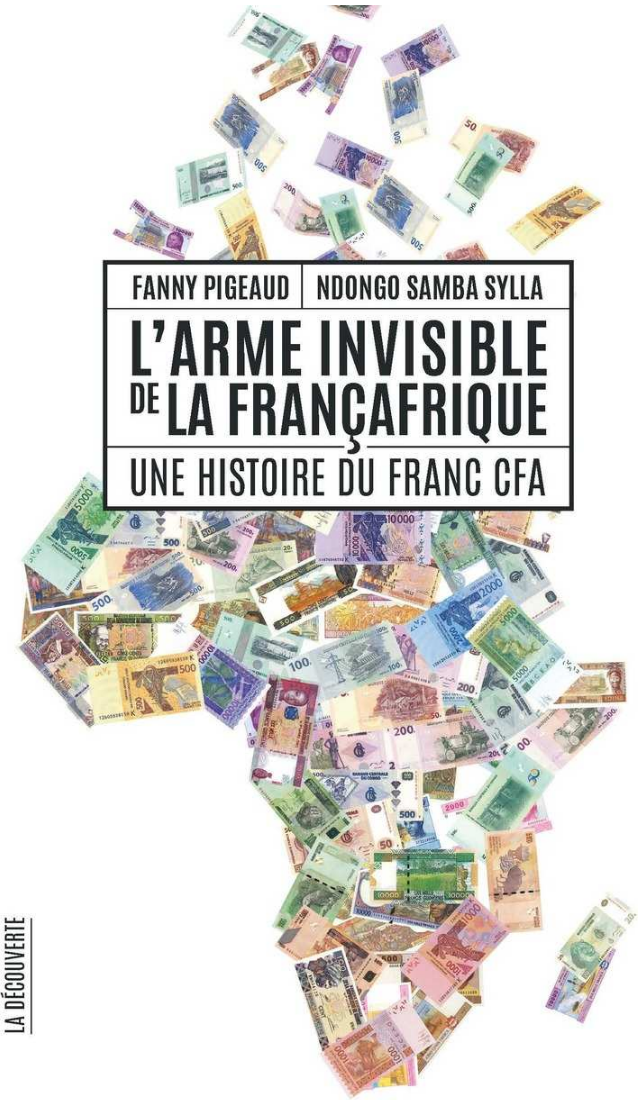
- CFA zone in west and central Africa
  - Former French colonies use "CFA Franc"
  - Imposed by France at end of World War II
  - Still dominated by France, but now tied to Euro

L’arme invisible de la FranÃ§afrique

FANNY PIGEAUD | NDONGO SAMBA SYLLA

L'ARME INVISIBLE DE LA FRANÇAFRIQUE

UNE HISTOIRE DU FRANC CFA



LA DÉCOUVERTE

Using Currency of Different Country Forfeits Monetary Sovereignty

- Ecuador and El Salvador use the U.S. dollar

Pause for Questions

Why Monetary Sovereignty Matters

- Improves country's ability to deal with economic problems
- Problems with other countries
    - Fixed exchange rates imply "exchange rate risk"
        - Drain of foreign reserves may touch off speculation against the currency
        - Possibility of devaluation

Monetary Sovereignty and Domestic Economic Problems

- Counter-example: U.S. response to COVID-19 crisis
- United States faced two major challenges:
    - Had had to assemble real resources needed to contain pandemic
        - Required spending on massive scale
    - Had to cushion impact of fall in regular economic activity
        - Income support
            - Extend unemployment benefits
            - Grants to businesses
        - More generally, had to support "aggregate demand"

U.S. Federal Government Response

- Congress authorized spending; President signed bills into law
- Treasury spent
  - Cut income support checks
  - Directed Federal Reserve to electronically credit bank accounts ...
    - ... of people and firms providing government with real resources
- Why was U.S. government able to do all this?
  - Monetary sovereignty
  - Federal government is currency issuer -- not a currency user
  - Does not need to amass funds from taxation or borrowing before spending

What If We Weren’t Monetarily Sovereign?

- Take the case of a country which has given up its own currency and uses U.S. dollar
- Ecuador, El Salvador
  - Must spend U.S. dollars
  - But cannot issue U.S. dollars
  - They’re currency users -- not currency issuers
  - Cannot use their own currency as tool to pursue the public purpose
  - So, poor Ecuador and poor El Salvador

But Poor New York and Poor New Jersey As Well

- Currency users -- not currency issuers
  - Must accumulate funds by taxation or borrowing before they can spend
  - Not monetarily sovereign
- MMT: Monetary sovereignty is a big deal

Pause for Questions

Sector Balances

- MMT: Balances of income and spending among sectors of economy is also a big deal
- Macroeconomics

Bookkeeping

- Did you take bookkeeping in high school?

continued...

Bookkeeping

- Did you take bookkeeping in high school?
- Remember that every transaction has a debit on one side of the ledger and a credit on the other?
  - Double-entry bookkeeping

continued...

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- Repeat after me:

continued...

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  - "One person’s spending is another person’s income."

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  - "One person’s spending is another person’s income."
  - "One person’s financial asset is another person’s financial liability."

continued...

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  - "One person’s financial asset is another person’s financial liability."
  - "One person’s credit is another person’s debt."

Purge Connotations from Your Mind

- But purge your mind of positive or negative connotations associated with:
  - "asset" or "liability"
  - "credit" or "debt"
  - "surplus" or "deficit"

continued...

Purge Connotations from Your Mind

- But purge your mind of positive or negative connotations associated with:
  - "asset" or "liability"
  - "credit" or "debt"
  - "surplus" or "deficit"
- This is tougher to do than you might think
  - Most politicians cannot do it
  - ... and they certainly don’t want us to be able to do it

A Simple 2-person Economy

- Let's put these 3 statements into algebraic form:
- "One person's spending is another person's income."

```
My_Spending          ≡   Your_Income
```

continued...

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```

continued...

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- "One person's financial asset is another person's financial liability."

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My_Financial_Asset   ≡   Your_Financial_Liability
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- "One person's credit is another person's debt."

```
My_Credit            ≡   Your_Debt
```

continued...

A Simple 2-person Economy

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- "One person's spending is another person's income."

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- "One person's financial asset is another person's financial liability."

```
My_Financial_Asset   ≡   Your_Financial_Liability
```

- "One person's credit is another person's debt."

```
My_Credit            ≡   Your_Debt
```

- ≡ means "is by definition equal to"
    - Accounting identity
    - True by definition

Regroup Terms on One Side

- Subtract right-hand side of each equation from both sides
  - ... thereby regrouping all terms on left-hand side

```
My_Spending         - Your_Income                   ≡    0

My_Financial_Asset - Your_Financial_Liability      ≡    0

My_Credit           - Your_Debt                     ≡    0
```

continued...

Regroup Terms on One Side

- Subtract right-hand side of each equation from both sides
  - ... thereby regrouping all terms on left-hand side

```
My_Spending         - Your_Income                    ≡   0

My_Financial_Asset - Your_Financial_Liability       ≡   0

My_Credit           - Your_Debt                      ≡   0
```

- Rewrite left-hand side as sum of 2 numbers -- one positive, one negative

```
My_Spending         + (- Your_Income              )  ≡   0

My_Financial_Asset + (- Your_Financial_Liability )  ≡   0

My_Credit           + (- Your_Debt                )  ≡   0
```

- The terms on left must add up to `0`

Graph It!

```
Your income |                   x
            |         x         x
            |         x    x    x    x
            |    x    x    x    x    x
            |    x    x    x    x    x
            ------------------------------------
            |    y    y    y    y    y      Year
            |    y    y    y    y    y
            |         y    y    y    y
            |         y         y
My spending |                   y
```

A Simple Two-sector Economy

- 2 sectors instead of 2 persons
  - Government (currency-issuing)
  - Everybody else
    - Households, firms, state and local governments, foreign nations
    - Non-government ("private") sector

continued...

A Simple Two-sector Economy

- 2 sectors instead of 2 persons
  - Government (currency-issuing)
  - Everybody else
    - Households, firms, state and local governments, foreign nations
    - Non-government ("private") sector
- Every payment `made` by government sector `goes to` non-government sector
- Every payment `received` by government sector `comes from` non-government sector

Changes in Sectors' Financial Balances Must "Net Out"

```
Government Financial Balance    +   Non-government Financial Balance ≡   0
```

or (regrouping):

```
Government Financial Balance    ≡ - Non-government Financial Balance
```


Flow of Funds between Government and Non-Government Sectors (Period 1)

- Adapted from chapters 3 and 4 of Stephanie Kelton's "The Deficit Myth"
- Two buckets for two sectors; flows represented via arrows
- Period 1:

```
      Government                      Non-government

\                    /             \                    /
 \                  /  Spend: 100   \                  /
  \                /   --------->    \                /
   \              /    Tax:     90    \              /
    \            /     <---------      \            /
     \__________/                       \__________/
```

continued...

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       \              /    Tax:    90   \              /
        \            /     <---------    \            /
         \__________/                     \__________/
```

- After this transaction, what is the change in the financial balance of each sector?

Sector Balances after Period 1

- Answer: government's balance is `$ -10`; private sector's is `$ 10`

```
          Government                      Non-government

   \                     /          \                     /
    \                   /  Spend: 100 \                   /
     \     $ -10       /   --------->  \     $  10       /
      \               /    Tax:    90   \               /
       \             /     <---------    \             /
        \___________/                     \___________/

           $ -10              +              $  10              ≡    0
```

- The sector balances sum to **0**

Flow of Funds between Government and Non-Government Sectors (Period 2)

- Period 2: Government runs balanced budget

```
          Government                          Non-government

      \                    /              \                    /
       \                  /   Spend: 100   \                  /
        \                /    ---------->   \                /
         \              /     Tax:   100     \              /
          \            /      <----------     \            /
           \__________/                        \__________/
```

continued...

Flow of Funds between Government and Non-Government Sectors (Period 2)

- Period 2: Government runs balanced budget

```
           Government                          Non-government

    \                     /           \                     /
     \                   /  Spend: 100  \                   /
      \                 /   --------->   \                 /
       \               /    Tax:   100    \               /
        \             /     <---------     \             /
         \___________/                      \___________/
```

- After this transaction, what is the change in the financial balance of each sector?

Sector Balances after Period 2

- Answer: government's balance is `0`; private sector's balance is `0`
- No increase in private sector's net financial assets

```
             Government                          Non-government

        \                     /            \                     /
         \                   /  Spend: 100  \                   /
          \     $    0      /   --------->   \     $    0      /
           \               /    Tax:   100    \               /
            \             /     <---------     \             /
             \___________/                      \___________/

                $    0              +              $    0            ≡    0
```

- The sector balances sum to **`0`**

Flow of Funds between Government and Non-Government Sectors (Period 3)

- Period 3: Government runs surplus

```
             Government                        Non-government

        \                    /            \                    /
         \                  /   Spend:  90 \                  /
          \                /    --------->  \                /
           \              /     Tax:   100   \              /
            \            /      <---------    \            /
             \__________/                      \__________/
```

continued...

Flow of Funds between Government and Non-Government Sectors (Period 3)

- Period 3: Government runs surplus

```
            Government                        Non-government

      \                    /           \                    /
       \                  /  Spend:  90 \                  /
        \                /   --------->  \                /
         \              /    Tax:   100   \              /
          \            /     <---------    \            /
           \__________/                     \__________/
```

- After this transaction, what is the change in the financial balance of each sector?

Sector Balances after Period 3

- Answer: government's balance is `10`; private sector's balance is `-10`

```
           Government                        Non-government

   \                     /              \                     /
    \                   /   Spend:  90   \                   /
     \      $  10      /    --------->    \      $ -10      /
      \               /     Tax:   100     \               /
       \             /      <---------      \             /
        \___________/                        \___________/

            $  10                +               $ -10             ≡    0
```

- The sector balances sum to **0**

Pause for Questions

A Simple Three-sector Economy

- Non-government sector includes foreign nations
  - For greater realism, let’s separate them out
  - Assume foreign trade is conducted in U.S. dollars
- All financial flows will still net out
  - Wynne Godley: "Everything must come from somewhere, and then go somewhere." (Kelton, 132)

continued...

A Simple Three-sector Economy

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```
     Domestic Private Sector Balance
+          Government Sector Balance
+             Foreign Sector Balance
____________________________________
≡                                  0
```


Flow of Funds among Three Sectors (Period 1)

- Period 1
  - Government purchases from domestic private sector
  - Government taxes domestic private sector
  - Domestic private sector trades with foreign sector
    - Spends more on imports than foreigners spend on exports

```
                                         Domestic
      Government                         Private                           Foreign

\                    /            \                    /            \                    /
 \                  /  Spend: 100  \                  /  Import:  5  \                  /
  \                /   --------->   \                /   --------->   \                /
   \              /    Tax:    90    \              /    Export:  3    \              /
    \            /     <---------     \            /     <---------     \            /
     \__________/                      \__________/                      \__________/
```

continued...

Flow of Funds among Three Sectors (Period 1)

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      Government                    Private                           Foreign

\                    /            \                    /            \                    /
 \                  /  Spend: 100  \                  /  Import:  5  \                  /
  \                /   --------->   \                /   --------->   \                /
   \              /    Tax:     90   \              /    Export:  3    \              /
    \            /     <---------     \            /     <---------     \            /
     \__________/                      \__________/                      \__________/
```

- After these transactions, what is the change in the financial balance of each sector?

Sector Balances after Period 1

- Answer: government's balance is `-10`; private sector's balance is `8`; foreign sector's balance is `2`

```
                                   Domestic
          Government               Private                          Foreign

  \                    /        \                    /        \                    /
   \                  /  Spend: 100 \                /  Import:  5 \                /
    \     $ -10      /   --------->  \     $   8    /   --------->  \     $   2    /
     \              /    Tax:     90  \            /    Export:  3   \            /
      \            /     <---------    \          /     <---------    \          /
       \__________/                     \__________/                   \__________/

           $ -10              +              $   8             +              $   2        =   0
```

- The sector balances sum to **`0`**

Flow of Funds among Three Sectors (Period 2)

- Period 2: Government runs a budget surplus
  - Assume no changes in imports and exports

```
                                    Domestic
          Government                Private                           Foreign

    \                    /            \                    /            \                    /
     \                  /  Spend:  90  \                  /  Import:  5  \                  /
      \                /   --------->   \                /   --------->   \                /
       \              /    Tax:   100    \              /    Export:  3    \              /
        \            /     <---------     \            /     <---------     \            /
         \__________/                      \__________/                      \__________/
```

continued...

Flow of Funds among Three Sectors (Period 2)

- Period 2: Government runs a budget surplus
  - Assume no changes in imports and exports

```
                                   Domestic
         Government                Private                         Foreign

  \                    /     \                    /     \                    /
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    \                /   --------->  \                /   --------->  \                /
     \              /    Tax:   100   \              /    Export:  3   \              /
      \            /     <---------    \            /     <---------    \            /
       \__________/                     \__________/                     \__________/
```

- After these transactions, what is the change in the financial balance of each sector?

Sector Balances after Period 2

- Answer: government's balance is `10`; private sector's balance is `-12`; foreign sector's balance is `2`

```
                                        Domestic
      Government                        Private                           Foreign

\                    /            \                    /           \                    /
 \                  /  Spend:  90  \                  / Import:  5  \                  /
  \     $  10      /   --------->   \    $ -12       /  --------->   \     $   2      /
   \              /    Tax:   100    \              /   Export:  3    \              /
    \            /     <---------     \            /    <---------     \            /
     \__________/                      \__________/                     \__________/

       $  10               +            $ -12             +             $   2         =   0
```

- The sector balances sum to **`0`**
- Government sector has run a surplus, but domestic private sector now runs steep deficit

Positive and Negative

- If one sector is running a surplus, at least one other sector must run a deficit
- If one sector is running a deficit, at least one other sector must run a surplus
- 3 sectors cannot all be in surplus or all be in deficit at same time

continued...

Positive and Negative

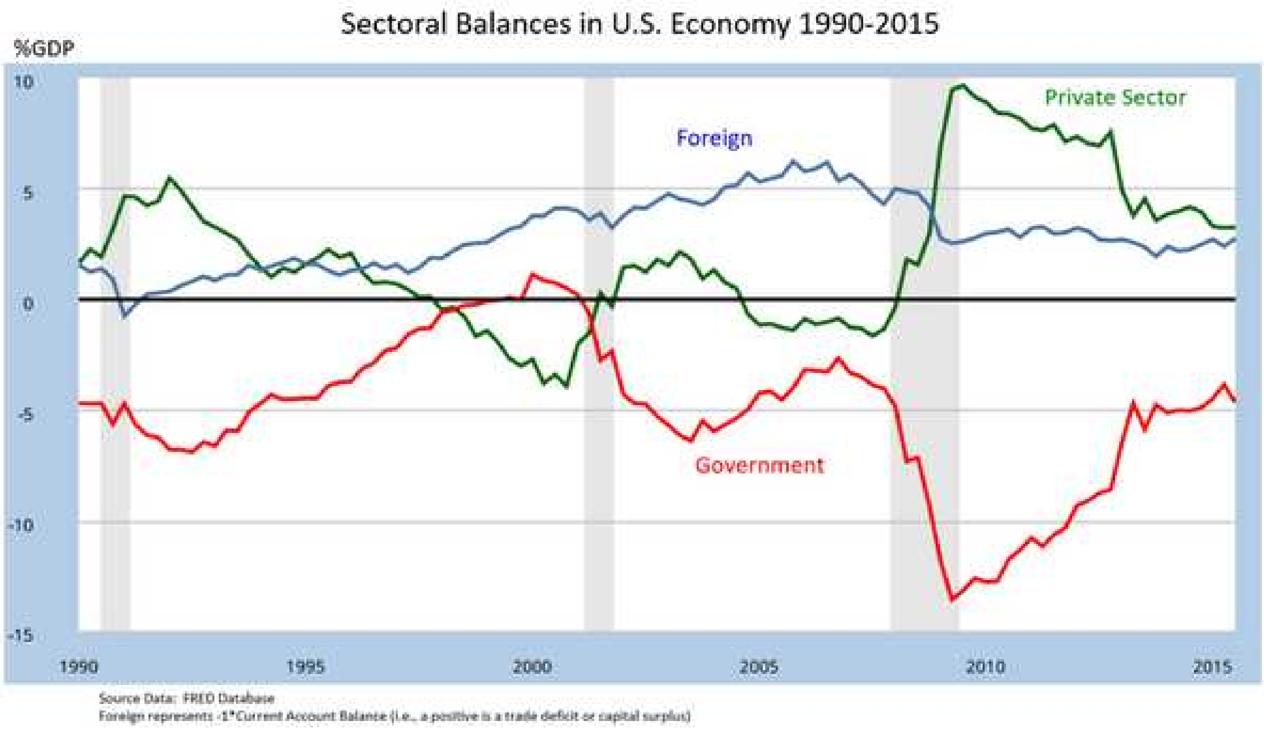
- If one sector is running a surplus, at least one other sector must run a deficit
- If one sector is running a deficit, at least one other sector must run a surplus
- 3 sectors cannot all be in surplus or all be in deficit at same time
- Accounting identities -- true by definition

Pause for Questions

Three Models of the Economy

- 2-person economy
- 2-sector economy
  - Government and non-government
- 3-sector economy
  - Government, domestic private sector, foreign sector

A Look at the Data



- Data is expressed in percentages of Gross Domestic Product rather than dollars
- 3 trend lines:

- `Green for private domestic sector`
- `Red for government sector`
- `Blue for foreign sector`

- 3 shaded vertical bars: recessions

Foreign Sector of U.S. Economy

- `Blue` line in chart
- Foreign sector runs surplus between 1 and 5 percent of GDP
- U.S. tends to import more than it exports -- trade deficit

Domestic Private Sector of U.S. Economy (1)

- `Green` line in chart
- Much greater swings than blue line
- Once economy is in recession, ...
  - Investment spending tends to shrink
  - Debts get paid off or cancelled
  - Households and firms build up liquidity

Domestic Private Sector of U.S. Economy (2)

- Eventually, private sector starts to expand
  - Firms and households start to draw down savings and take on debt
  - Private sector starts running a deficit
    - "Irrational exuberance"
- Credit crunch
  - Firms and households stop taking on new debt
  - Economy goes into recession
- Private sector's tendency to go into deficit precedes recessions ...
  - ... and during recessions private sector fights to get back into surplus

Government Sector of U.S. Economy (1)

- At start of period, government was running deficit in range of 5 percent of GDP
- Over 1990s, government moved in direction of running a surplus
  - Clinton Administration thought this was a good thing
    - We'll pay off the national debt!

continued...

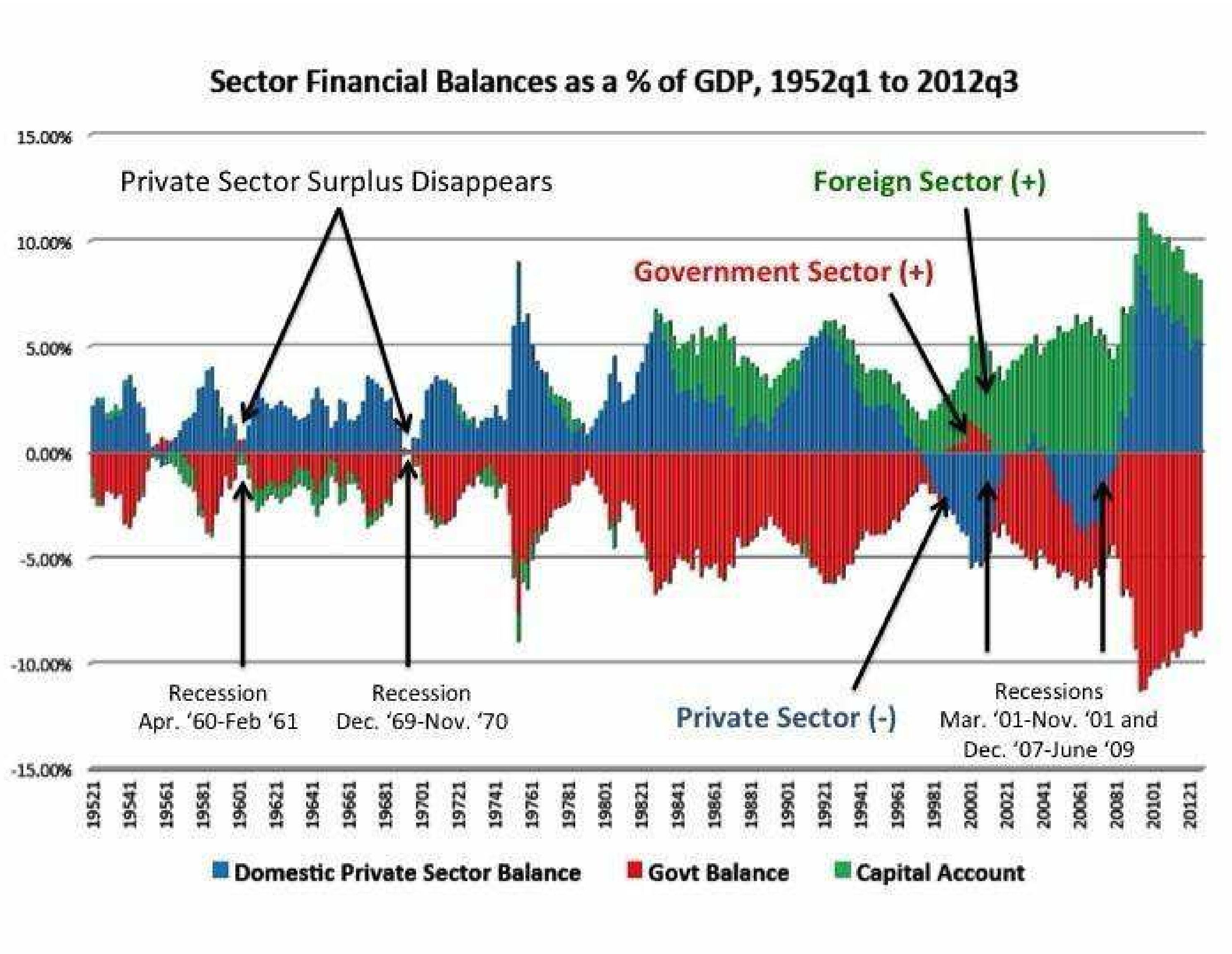
Government Sector of U.S. Economy (1)

- At start of period, government was running deficit in range of 5 percent of GDP
- Over 1990s, government moved in direction of running a surplus
    - Clinton Administration thought this was a good thing
        - We'll pay off the national debt!
- Situation did not last
    - Government went back into deficit during 2001 recession
    - Vastly deeper deficit during Great Recession
        - In recessions, tax revenues fall while unemployment payments rise

Government Sector of U.S. Economy (2)

- Note further: `Green` and `Red` lines tend to move in opposite direction from one another
  - When private domestic sector surplus is increasing,
  - ... government sector's deficit is also increasing.

U.S. Sector Balances, 1952-2012



Sector Financial Balances as a % of GDP, 1952q1 to 2012q3
15.00%
10.00%
5.00%
0.00%
-5.00%
-10.00%
-15.00%
Private Sector Surplus Disappears
Foreign Sector (+)
Government Sector (+)
Private Sector (-)
Recession
Apr. '60-Feb '61
Recession
Dec. '69-Nov. '70
Recessions
Mar. '01-Nov. '01 and
Dec. '07-June '09
19521 19541 19561 19581 19601 19621 19641 19661 19681 19701 19721 19741 19761 19781 19801 19821 19841 19861 19881 19901 19921 19941 19961 19981 20001 20021 20041 20061 20081 20101 20121
Domestic Private Sector Balance
Govt Balance
Capital Account

- Different color scheme
  - Blue for private domestic sector
  - Red for government sector
  - Green for foreign sector
- Created by the public radio program Marketplace.
- Sum of sector(s) in surplus is exactly matched by sum of sector(s) in deficit
- Arrows and labels indicate that a decline in the private sector surplus means a recession is on the way

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Two-Person Economy Redux

```
 Your income |                 x
             |         x       x
             |         x   x   x   x
             |     x   x   x   x   x
             |     x   x   x   x   x
            ------------------------------------
             |     y   y   y   y   y       Year
             |     y   y   y   y   y
             |         y   y   y   y
             |         y       y
 My spending |                 y
```

continued...

Two-Person Economy Redux

```
Your income |                 x
            |         x       x
            |         x   x   x   x
            |     x   x   x   x   x
            |     x   x   x   x   x
           ------------------------------------
            |     y   y   y   y   y      Year
            |     y   y   y   y   y
            |         y   y   y   y
            |         y       y
My spending |                 y
```

- If one sector is running a surplus, at least one of other sectors must run a deficit
- Changes in sector balances sum to `0`

What Have We Learned -- or Not Learned?

- Models based on accounting identities
- No description of human behavior
    - Particularly aggregate economic behavior
- What determines levels of these flows and balances?
- Macroeconomic questions need macroeconomic theory
- Macroeconomic theory precedes macroeconomic policy

Pause for Questions

